

**SUSTAINABLE DEVELOPMENT
AFFORDABLE HOUSING
PILOT PROGRAM**



DIVISION OF HOUSING – NEW JERSEY GREEN HOMES OFFICE

Pilot Program Synopsis

The Sustainable Development/Affordable Housing Pilot Program is an initiative of the New Jersey Department of Community Affairs (DCA) in collaboration with New Jersey's largest utility, Public Service Electric and Gas Company (PSE&G) and has been developed and administered by DCA's Division of Housing and Community Resources. The program was devised to determine how to incorporate sustainable design principles, including energy efficiency, into the production of affordable, energy efficient housing.

Sustainable development criteria include the many aspects of building that incorporate principles of sound land use planning, minimize impact on the environment, conserve natural resources, encourage superior building design to enhance the health, safety and well-being of the residents, provide durable, low-maintenance dwellings and make optimum use of existing infrastructure.

Questions to be answered by the Pilot Program:

- How can we achieve a balance between sustainability and affordability? Can we identify strategies through this demonstration that can be widely replicated?
- Does it cost more to build highly energy efficient housing than to build the standard product? If so, how much more? Is additional subsidy needed?
- Beyond energy efficiency, what sustainable strategies can and should be incorporated into the affordable housing subsidized by DCA? How much will they cost and how much additional subsidy will be needed, if any?

In November, 1998, DCA published a Request for Proposals seeking housing development teams to design and construct affordable, highly energy efficient housing that met various sustainable development criteria. See Appendix I for a list of the documents included in the RFP package.

The following excerpts from the Pilot Program Description (RFP), also found in Appendix I, present the essential program structure:

"The immediate aim of the pilot project is to solicit creative strategies to produce housing units for low and moderate income households that are affordable, can be produced with the application of reasonable public subsidy and meet the...sustainable standards [identified in Exhibit 1, Sustainable Design Strategies for Achieving Program Goals and Guidance to Applicants]. The longer-range purpose is to identify approaches to sustainable design that are reliable and can be widely replicated by affordable housing developers. Ultimately, DCA anticipates incorporating these strategies into State affordable housing funding programs so as to raise building standards and 'transform the market' by establishing a higher standard of development." (RFP, p. 1)

“Program Goals:

- X To promote implementation of the New Jersey Development and Redevelopment Plan by applying proven energy efficient technologies and environmentally sensitive construction practices and materials.
- X To encourage developing municipalities to provide affordable housing by demonstrating that it can be attractive and an asset to the community.
- X To encourage site selection, site planning and building design which minimize the impact on environmental quality and limit emissions of greenhouse gases.
- X To promote a market transforming approach to energy and resource-efficient design, construction and methodologies for conserving other natural resources.
- X To produce housing for low and moderate income households that is highly energy efficient, cost efficient and easy to maintain.” (RFP, p. 2)

“Specifically, the objectives of sustainable housing development are to:

- X Make optimum use of the site to minimize impact on the environment.
- X Use site and building design to promote a sense of community and foster appreciation of the natural landscape.
- X Reduce dependence on automobiles for access to jobs and services.
- X Use materials which incorporate recycled content, have reduced toxicity and are recyclable, repairable and durable.
- X Implement a comprehensive approach to energy-efficiency through building design, state of the art HVAC technology and equipment, lighting, appliances and water use.
- X Use resource-efficient and environmentally responsible materials, minimize waste and encourage recycling.
- X Enhance the health and safety of occupants through superior indoor air quality.
- X Educate occupants in the operation and maintenance of their dwellings.
- X Propose replicable strategies and employ market-ready technologies.” (RFP, p.4)

Developers were directed to follow a set of sustainable design strategies to achieve the Pilot Program’s mission. (See Appendix I, Exhibit 1.)

Eligible activities were new construction or reconstruction of existing buildings to produce homeownership or rental developments. The proposed dwelling units had to be affordable using available subsidy programs and appropriate for the neighborhood. Although DCA hoped to include at least one suburban and one urban project, the quality of the applications took precedence over geographic distribution. DCA sought “creative approaches that use a combination of various proven techniques, including consideration of market-ready, state-of-the-art technologies.”

The experience and knowledge of the development team were important considerations. Developers were encouraged to team up with professional consultants, planners, architects and builders experienced in sustainable design.

Program Incentives, as presented on pages 6-7 of the RFP:

- DCA's Balanced Housing Program set aside \$5 million for the Pilot Program. (See Appendix V for a Balanced Housing Program description.) Some Balanced Housing Program requirements were modified to encourage participation in the Pilot Program. Modifications included an increased per-unit subsidy for rental units, elimination of the limits on consulting and architect fees, more liberal underwriting assumptions and inclusion of certain projects in suburban municipalities that would otherwise be ineligible.
- The PSE&G Energy Efficient Home (EEH) *5-Star* Program provided financial incentives to builders designed to offset typical incremental costs of energy efficiency upgrades. Amounts range from \$1200 to \$2500 per unit.
- The New Jersey Housing and Mortgage Finance Agency committed up to \$5 million for purchase money mortgages at 5% interest with zero points.
- \$200,000 was committed by the State Energy Office for projects that incorporated passive and active solar and photovoltaic technologies.

Program Requirements, RFP, pages 8-10:

- A substantial portion of the housing units in a project must be affordable to households with incomes below 80% of the county median.
- All units in a project must meet the standards of the PSE&G Energy Efficient Home (EEH) *5-Star* Program, i.e., 30% more energy efficient than the CABO Model Energy Code.
- Projects must be in municipalities in which PSE&G supplies both gas and electric service **and** which are eligible to apply for Balanced Housing subsidy. They must be in Planning Areas designated as appropriate for development by the State Planning Commission and in viable neighborhoods.
- Applicants must fulfill the sustainable development goals of the program by using as many of the strategies listed in Exhibit I, Sustainable Design Strategies for Achieving Program Goals as are appropriate and affordable.
- Applicants must demonstrate site control.
- Applicants must conform to the rules of the Balanced Housing Program, as modified for the Pilot Program.
- Projects must be financially feasible based on reasonable underwriting standards.
- At least one member of the development team must have demonstrated experience with sustainable design and/or construction.
- Applicants must propose a program to educate occupants in the operation and maintenance of their dwellings with particular attention to the operation and care of the mechanical systems, equipment and appliances.

Project Evaluation: On pages 10-11, the RFP states: “Applications which meet the following standards will receive priority consideration:

- In overall approach, the project fulfills the intent of this Pilot Program to design and construct housing that is affordable, highly energy efficient and meets sustainable development criteria.
- X The applicant makes creative use of Sustainable Design Strategies listed in Exhibit I to further the objectives of the Pilot Program and integrates as many of the strategies as possible into a cohesive project.
- X The Sustainable Design Strategies selected by the applicant are replicable and are based on market-ready technologies. The applicant has given consideration to: a) initial cost; and b) ease of maintenance by the owners and/or the tenants.
- X The development team demonstrates well rounded, relevant and authoritative experience and capacity to carry out the project.
- X The applicant has exceeded the requirements of the PSE&G Energy Efficient Home (EEH) *5-Star* Program by achieving a Home Energy Rating System (HERS) rating greater than 86 points.
- X The project is ready to proceed. There are no impediments to construction.
- X The education program for the occupants is comprehensive, deals specifically with maintenance of the systems within the dwelling units and is delivered by qualified personnel.
- X The project receives favorable review for Balanced Housing subsidy according to the Balanced Housing Rule at N.J.A.C. 5:43-2.4.
- X The developer proposes to create dwelling units that are appropriate for the sizes and incomes of the households that will make up the target population.

As part of the demonstration aspect of this program DCA is interested in documenting the decisions made in the course of the design process and will favor applications in which the development team is willing to document their decision-making process.”

Selection Process:

The Pilot Program was structured as a two-phase design competition. The Phase I application required a schematic design, description of the selected construction materials, building systems strategies, key components of building envelope and mechanical systems and a discussion about how the project addressed the program objectives and used each strategy in Exhibit I. In order to spare developers the significant cost of detailed work by expert design professionals, a final project design was not required in the initial submission. However, applicants were directed to “provide sufficient detail to establish that the proposed project meets the Pilot Program goals incorporates Sustainable Design Strategies and is financially feasible and achievable.” (RFP, p. 11)

Applications that met the threshold requirements were reviewed by a team of recognized sustainable design experts and representatives from DCA and PSE&G. Submissions were judged by how well they exemplified and balanced the three main demonstration objectives of sustainability, affordability and replicability.

From the group of initial submissions, the review team chose projects to compete in Phase II, which required submitting detailed project designs. Winners were selected from the Phase II pool of projects. DCA promised to reimburse unsuccessful Phase II participants “for the cost of developing and producing the materials required for the Phase II application...at the rate of \$1000 per unit, with a per-project minimum of \$5000 and a maximum of \$20,000.” (RFP, p.12)

A wooden Adirondack chair is positioned in the lower-left foreground of a vast, green, grassy field. The field stretches out towards a dense forest in the background. The trees in the forest are displaying vibrant autumn colors, including shades of red, orange, yellow, and purple, interspersed with dark evergreen trees. The sky is not visible, as the forest fills the upper portion of the frame.

LESSONS LEARNED

Lessons Learned

1. As anticipated, the projects in the Pilot Program cost more and require more subsidy than much of the housing currently subsidized by the Balanced Housing Program. Over time, the economic benefits are anticipated to outweigh the higher initial costs and will provide a return on the added investment of subsidy. Compared to the standard housing built in New Jersey, these housing units are more efficient, thus incurring lower utility and maintenance costs, are constructed of more durable materials and will be healthier and more comfortable for the occupants, factors that assure affordability and add to the longevity of the units. By achieving a 30-40 percent reduction in the use of fossil fuels, they also should reduce the impact on the environment.
2. The added construction costs can be kept within a range that can be absorbed by existing subsidy programs. At the present time, New Jersey utility companies offer financial incentives to cover the incremental costs of meeting certain standards of energy efficiency. It is reasonable to anticipate that Balanced Housing and the Low Income Housing Tax Credit Program can cover much of the remaining cost. (See Appendix XI.)
3. DCA can integrate sustainable design specifications into its subsidy programs without creating a burden on the developers. The Pilot Program required some simple strategies that were not costly, such as: recycling on all job sites; retention of existing trees where possible; roof shingles with 25 year warranty; interior finishes without VOC's; drought-resistant landscaping; and use of recycled materials for paving. Minimum specifications can be developed that contribute significantly to a sustainable approach without substantial expense.
4. Requirements imposed by the subsidy programs must make economic sense. Developers that stay in business are always aware of the "bottom line." If a strategy or a component does not allow for a reasonable profit, they will discard it. In some cases, increased subsidy is needed to cover increased costs; but some energy-efficient systems result in savings that reduce first cost. For example, a carefully insulated and sealed house needs smaller, and consequently less expensive, heating and cooling equipment. In one project, the elimination of curbs and use of plantings along the internal roadways resulted in less storm-water run off and reduced the need for retention basins from two to one. It always will be necessary to balance sustainability with affordability. Evaluation of this Pilot program and of future sustainable, affordable housing will help determine where the appropriate balance lies.

5. Developers and contractors are skeptical about new techniques and products. Ideally, “green” products should be readily obtainable, easy to get to the construction site and not significantly more difficult to install than the products they are replacing. If they are more expensive or complicated, developers and contractors will be looking for more money or for trade offs with other items or both. Products that are not reliably on site when needed will be dismissed. Often contractors perceive that new building techniques will be more time-consuming because their crew will have to do things differently. However, even reluctant crews have come to like new techniques once they become adept at them.
6. Some “green” products are more expensive and less available locally than their commonly used counterparts. It has been necessary to import certain components from across the country and even from Canada. Implementing sustainable design specifications for all housing subsidized by the State will increase the market, stimulate interest in bringing these products into New Jersey, perhaps in producing some of them locally, and will begin to drive down costs.
7. The developers like the approaches to energy efficiency and design that the Pilot Program introduced. Although the participants were a self-selected group, they were not all immediately enthusiastic. Several of them were intrigued by the possibilities and believed in sustainability. The rest came into the Program only because they were asked directly to apply or because they could see that this was the “wave of the future” or simply because there was a set-aside of subsidy. However, they all persevered in the Program and most of them will use at least some of these approaches from now forward. One of the most appealing aspects, particularly for developers of rental housing who own and manage their buildings, is the perception that the systems and finishes they have installed will be more durable and last longer than the items they are replacing.
8. The development teams participating in the Pilot Program did not have in-house experience with energy-efficient systems and sustainable strategies. For the moment, developers need to retain knowledgeable, experienced consultants to guide them through the design, development and construction process. However, interest in these new approaches is growing among professionals. With encouragement and initial assistance, we can build expertise in New Jersey. This will have repercussions beyond the affordable housing sector as architects and engineers incorporate sustainable design principles into their work for other clients.

9. The Balanced Housing staff, skilled in real estate finance and contract management but not necessarily in construction, also will need to retain experts to evaluate proposals for sustainable, energy-efficient housing, to provide technical assistance and to monitor construction. The Pilot Program devised a process for reviewing and negotiating the list of sustainable items to be incorporated in each project. This made it possible to control project costs, to assure reasonable choices of effective strategies and to balance sustainability with affordability. The process worked because of the participation of well-qualified consultants with experience and specialized knowledge who could speak with authority to development teams.
10. The Pilot Program has demonstrated that with the application of reasonable public subsidy, it is possible to construct affordable housing units with highly efficient mechanical systems, excellent insulation and ventilation and healthy, durable interior and exterior finishes. To make an impact on the industry, DCA and the State of New Jersey need to make these requirements part of their subsidy programs, thus assuring that future affordable housing produced in New Jersey will incorporate increasing levels of energy-efficiency and sustainability.